A weight of evidence framework outlining criteria for weighing measurement endpoints and lines of evidence. The relative importance of the weighting criteria are also established (TBD).		Weighting Criteria for Measurement Endpoints	Considerations	Ranking Relative to Considerations				
Considerations	**Weighting for Relative Importance of Measurement Endpoint Evaluation Criteria**	**Relevance of Measure to Assessment Endpoint**		**1**	**2**	**3**	**4**	**5**
	?	**Exposure Pathway**	Degree to which exposure is relevant to the assessment endpoint	Exposure pathway is weakly associated with the assessment endpoint				Exposure pathway is highly relevant to assessment endpoint
	?	**Measurement Endpoint**	Degree to which the measurement endpoint is a direct estimate of the assessment endpoint or if validation studies have demonstrated that the measurement endpoint is predictive of the assessment	Measurement endpoint is indirectly linked to the assessment endpoint				Measurement endpoint is the assessment endpoint (e.g. measure of growth, mortality or reproduction)
	?	**Exposure Assessment**		**1**	**2**	**3**	**4**	**5**
		Temporal Representation	Encompasses the relevant range of temporal variance of conditions; number of measurement or sampling events over time	Exposure data represents a single sampling event or limited time scale relative to variability				Data collected represents several different temporal scales relevant to variability in exposure (e.g. seasonal changes; tidal fluxes)
	?	**Spatial Scope / Coverage**	Data adequate to represent the geographic area being assessed; degree of compatibility between the study area, locations of measurements or samples, co-location of stressors, and locations of ecological receptors and their points of exposure	Exposure data represents a larger scale than that over which receptor exposure occurs				Exposure data collected on the scale over which receptor exposure occurs

	?	**Quality of Exposure Data**	Data on exposure considered to be of high quality. Considerations are accuracy, precision, analytical detection limits and study design	Low Quality				High Quality
	?	**Quantity of Exposure Data**	Results based on small sample sizes are given less weight than those based on large sample sizes relative to the potential variance	Data set limited; sample size small enough that data should be examined qualitatively		Results quantitative, but data are insufficient to test for statistical significance between locations.		Number of samples sufficient to estimate exposure with confidence; may be tested for statistical significance between locations
	?	**Effects Assessment**		**1**	**2**	**3**	**4**	**5**
		Site Specificity	Degree to which effects are measured on a site specific basis	Effects literature based; data not empirically derived nor validated to occur at the site		Effects laboratory based; effects not field validated to occur at the site		Effects empirically derived at the site or validated to occur (e.g. field validation of laboratory results)
	?	**Exposure / Response Relationship**	Degree to which a relationship between magnitude of exposure and effects has been established	No relationship between magnitude of exposure and effects		Magnitude of response qualitatively or weakly linked to exposure		Reliable, statistical relationship between magnitude of exposure and effects
	?	**Quality of Effects Data**	Adequate protocols for sampling, analysis, testing and study design; degree to which standard methods were used	Standard methods not used				Standard methods and protocols used
	?	**Quantity of Effects Data**	*Literature Based*: The degree to which there is a paucity of literature data on effects; *Empirically Derived Effects*: Effects data sufficient relative to variability to est. effects with appropriate confidence	Literature Data Limited; Empirical effects variable in response				*Literature*: Sufficient literature data to establish effects threshold; *Empirically Derived;* Data enough for statistical comparisons; or predict with an appropriate level of confidence

Medium	Measures of Effect and Exposure (Measurement Endpoints)	Lines of Evidence	Relevance to Assessment Endpoint		Exposure Assessment				Effects Assessment			
			Exposure Pathway	Measurement Endpoint	Temporal Representation	Spatial Coverage	Quality of Exposure Data	Quantity of Exposure Data	Site Specificity	Exposure / Response Relationship	Quality of Effects Data	Quantity of Effects Data
Bulk Sediment	Sediment Toxicity Testing to empirically assess adverse effects	EL-10-day *C. tetans* survival										
		EL-10-day *C. tetans* growth										
		EL-28-day *H. azteca* survival										
		EL-28-day *H. azteca* growth										
		EL-28-day *Corbicula* mortality or growth??										
	Predicted toxicity based on a Portland Harbor Specific Model	SED / P-SS-10-day *C. tetans* survival										
		SED / P-SS-10-day *C. tetans* growth										
		SED / P-SS-28-day *H. azteca* survival										
		SED / P-SS-28-day *H. azteca* growth										
	Empirical SQGs	SED/ P-Consensus Based SQGs-LIT										
		SED / P-Empirical SQGs-LIT										
	Mechanistic Based SQGs: Equilibrium Partitioning Methodology	SED / MEC EqP SQGs / AWQC-LIT										
Surface Water	Concentration in Surface Water Relative to reported AWQC or Appropriate Literature Values	SW / AWQC-LIT (VOCs)										
		SW / AWQC-LIT (Metals)										
		SW / AWQC - LIT (PAHs)										
		SW / AWQC - LIT (Organics)										
Transition Zone Water	Concentration in transition zone water relative to reported AWQC or literature values	TZ / AWQC-LIT (VOCs)										
		TZ / AWQC-LIT (Metals)										
		TZ / AWQC-LIT (PAHs)										
		TZ / AWQC-LIT (Organics)										
	Measured effects on invert. Sp. to TZ water	TZ / Tox Testing / Species??										
Benthic Tissue	Benthic Tissue Data: Modeled, lab and field relative to CTLs or measurement of effects	EF / *Corbicula* WBC / CTL-LIT										
		EL / *Corbicula* WBC / CTL-LIT										
		EL / *Corbicula* / WBC growth or mortality?										
		EL / *Lumbriculus* WBC / CTL-LIT										
		BSAF-EF/ WBC / CTL-LIT										
		BSAF-LIT/ WBC / CTL-LIT										

Abreviations:
SED=Bulk Sediment Concentration
SW=Surface Water Concentration
TZ=Transition Zone Water Concentration

EF=Empirically Derived Field
EL=Empirically Derived Lab
P=Predicted
SS=Site Specific

MEC=Mechanistic Based Model
LIT=Literature

WBC=Whole Body Concentration
CTL=Critical Tissue Level

Shaded values represent endpoints that need further discussion or clarification

Medium	Measures of Effect and Exposure (Measurement Endpoints)	Lines of Evidence	Relevance to Assessment Endpoint			Exposure Assessment					Effects Assessment			
			Exposure Pathway	Measurement Endpoint		Temporal Representation	Spatial Coverage	Quality of Exposure Data	Quantity of Exposure Data		Site Specificity	Exposure / Response Relationship	Quality of Effects Data	Quantity of Effects Data
Surface Water	Concentration in Surface Water Relative to reported AWQC or Apppropriate Literature Values	SW / AWQC-LIT (VOCs)												
		SW / AWQC-LIT (Metals)												
		SW / AWQC-LIT (PAHs)												
		SW / AWQC-LIT (Organics)												
Transition Zone Water	Concentration in transition zone water relative to reported AWQC or literature values	TZ / AWQC-LIT (VOCs)												
		TZ / AWQC-LIT (Metals)												
		TZ / AWQC-LIT (PAHs)												
		TZ / AWQC-LIT (Organics)												
	Measured effects on invert. Sp. to TZ water	TZ / Tox Testing / Species??												
Tissue	Benthic Tissue Data: Modeled, lab and field relative to CTLs or measurement of effects	EF / *Corbicula* WBC / CTL-LIT												
		EL / *Corbicula* WBC / CTL-LIT												
		EL / *Corbicula* / WBC growth or mortality?												
		EF / *Corbicula* / WBC / CTLs-LIT												
		EF / mussel (sp?) / WBC / CTLs-LIT												

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Medium	Lines of Evidence	Measures of Effect and Exposure (Measurement Endpoints)	Relevance to Assessment Endpoint	
			Exposure Pathway	Measurement Endpoint
Surface Water	Concentration in Surface Water Relative to reported AWQC or Appropriate Literature Values	SW / AWQC-LIT (VOCs)		
		SW / AWQC-LIT (Metals)		
		SW / AWQC-LIT (PAHs)		
		SW / AWQC-LIT (Organics)		
Transition Zone Water	Concentration in transition zone water relative to reported AWQC or literature values	TZ / AWQC-LIT (VOCs)		
		TZ / AWQC-LIT (Metals)		
		TZ / AWQC-LIT (PAHs)		
		TZ / AWQC-LIT (Organics)		
Tissue	Crayfish Tissue whole body concentrations compared to critical tissue values	EF-WBC / CTL-LIT (VOCs)		
		EF-WBC / CTL-LIT (Metals)		
		EF-WBC / CTL-LIT (PAHs)		
		EF-WBC / CTL-LIT (Organics)		
	Predicted (BSAF or FWM) whole body concentration compared to CTL	P-WBC / LIT-BSAF / CTL-LIT (Organics)		
		P-WBC / SS-BSAF / CTL-LIT (Organics)		

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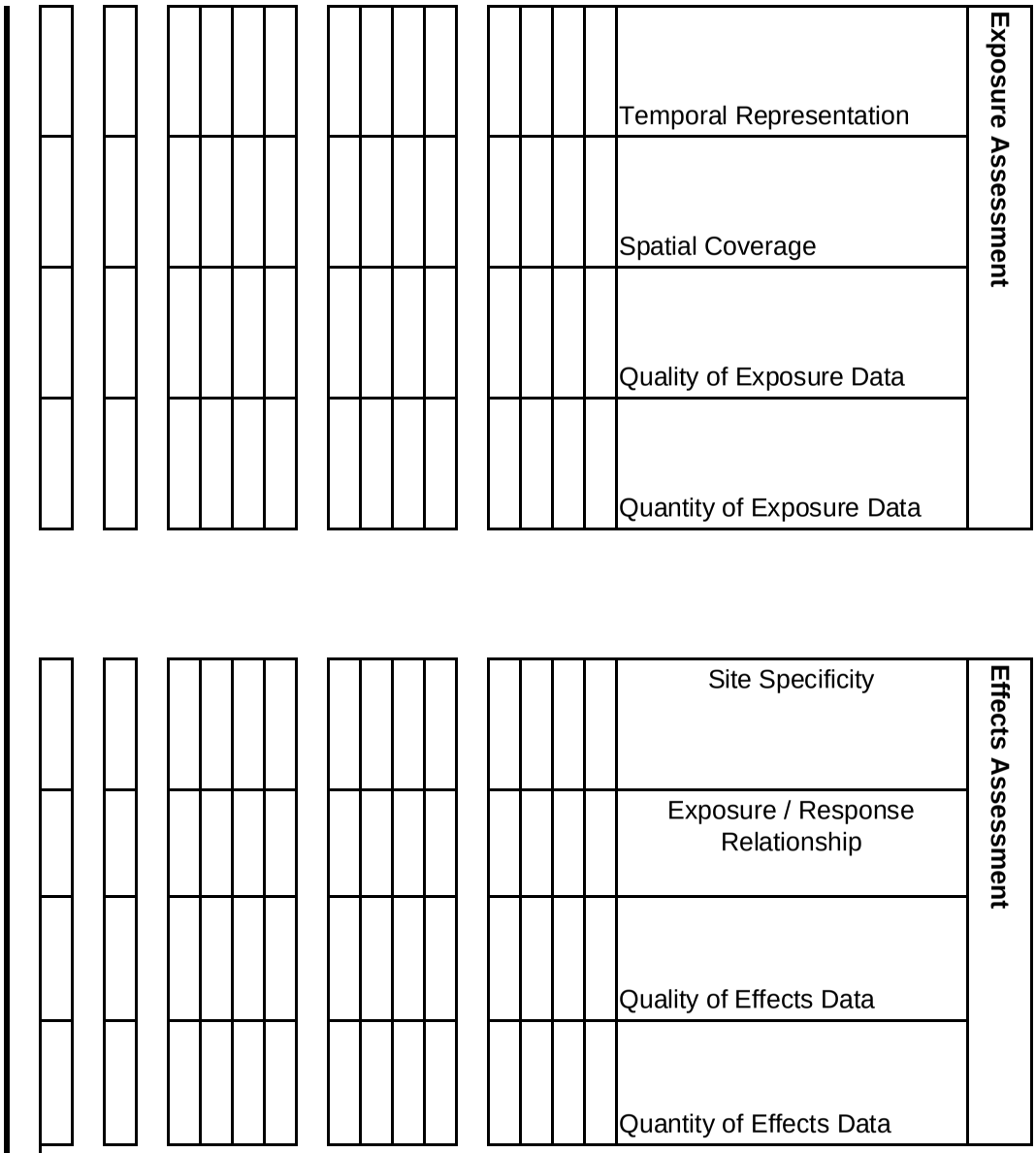
Temporal Representation
Spatial Coverage
Quality of Exposure Data
Quantity of Exposure Data
Exposure Assessment
Site Specificity
Exposure / Response Relationship
Quality of Effects Data
Quantity of Effects Data
Effects Assessment

Medium	Measures of Effect and Exposure (Measurement Endpoints)	Lines of Evidence	Relevance to Assessment Endpoint		Exposure Assessment				Effects Assessment			
			Exposure Pathway	Measurement Endpoint	Temporal Representation	Spatial Coverage	Quality of Exposure Data	Quantity of Exposure Data	Site Specificity	Exposure / Response Relationship	Quality of Effects Data	Quantity of Effects Data
Sediment	Dietary dose compared to fish dietary TRVs	M -exposure / SED and EF or EL Invert WBC /TRVs-LIT (PAHs)										
		M -exposure / SED and EF or EL Invert WBC /TRVs-LIT (Metals)										
		M -exposure / SED and EF or EL Invert WBC /TRVs-LIT (PCBs)										
	Dietary dose compared to dietary TRVs that include stomach content data	M -exposure / SED and M-Invert WBC /TRVs-LIT (PAHs)										
		M -exposure / SED and M-Invert WBC /TRVs-LIT (Metals)										
		M -exposure / SED and M-Invert WBC /TRVs-LIT (PCBs)										
	Dietary dose compared to dietary TRVs that include stomach content data	EF-exposure / SED and EF or EL Invert WBC / TRVs-LIT (PAHs)										
		EF-exposure / SED and EF or EL Invert WBC / TRVs-LIT (Metals)										
		EF-exposure / SED and EF or EL Invert WBC / TRVs-LIT (PCBs)										
	Fish condition or incidence of lesions	SED / Lesion Incidence TRVs-LIT (PAHs)										
	Sediment quality guidelines that consider fish effects (ERLs, ERMs, TELs/PELs, SQALs	SED / Fish Effect SQGs-LIT (All?)										
Surface Water	Concentration in Surface Water Relative to reported AWQC or Apppropriate Literature Values	SW-AWQC-LIT (VOCs)										
		SW-AWQC-LIT (Metals)										
		SW-AWQC-LIT (PAHs)										
		SW-AWQC-LIT (Organics)										
Transition Zone Water	Concentration in transition zone water relative to reported AWQC or literature values	TZ / AWQC-LIT (VOCs)										
		TZ / AWQC-LIT (Metals)										
		TZ / AWQC-LIT (PAHs)										
		TZ / AWQC-LIT (Organics)										
Tissue	Whole body tissue concentration compared to critical tissue values	EF / WBC / CTL-LIT (Metals)										
		EF / WBC / CTL-LIT (Organics)										
	Predicted (BSAF or FWM) whole body concentration compared to critical tissue	P-WBC / SS-BSAF / CTL-LIT (Organics)										
		P-WBC / LIT-BSAF / CTL-LIT (Organics)										
Health Assessment	Examine field collected fish for incidence of lesions in Portland Harbor	EF / FH-Incidence of Lesions										

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